



Faculty of Medicine

VMFN36, Virology, 7.5 credits

Virologi, 7,5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by The Master's Programmes Board on 2021-02-02 to be valid from 2021-02-03, autumn semester 2021.

General Information

The course is intended for students and professionals who want to gain knowledge of virology with a particular emphasis on human pathogens.

Language of instruction: English

Learning outcomes

Knowledge and understanding

On completion of the course, the students shall be able to

- account for the structure and chemical and physical properties of viruses
- account for basic pathogenetic concepts within virology
- account for the infection process at the cell, organism and population level for a number of human viruses
- make predictions about the properties of newly discovered viruses based on knowledge of known viruses
- explain the pathogenic properties and spread patterns of different human viruses based on knowledge of their molecular properties and the function of the immune system
- describe how a number of important antiviral drugs inhibit viral propagation

Competence and skills

On completion of the course, the students shall be able to

- plan and execute described experiments within molecular virology
- compile and interpret their own and others' experimental results or observations in the area of virology,

- present their own and others' molecular virology results, orally and in writing, using the correct terminology

Judgement and approach

On completion of the course, the students shall be able to

- analyse and assess information on molecular virology from the mass media, scholarly review articles and original articles

Course content

The course covers basic virology and virological terminology with a focus on medical virology. Among the topics addressed are the effects of a viral infection at the cell and organism level. The course focuses on molecular virology, particularly virus replication in the infected cell and the molecular mechanisms involved in this. Considerable emphasis is placed on understanding the replication cycle of viruses at the molecular level so that students can use this knowledge to be able to understand how viruses cause disease in the infected host, elude its immune response and spread within an individual and a population. A significant part of the course is devoted to the study of literature – scholarly reviews and original articles on virological issues at the current forefront of research in molecular virology. The course mainly covers human pathogenic viruses.

Group exercises and seminars using their own oral and/or written presentations aim to engender specialised knowledge in chosen parts of molecular virology. The students are to formulate individual issues and carry out the assignment using literature searches and literature studies. The aim of the laboratory sessions is to enable students to develop their ability to plan and execute scientific experiments, interpret and critically review results and compile these in an oral presentation to fellow students and researchers in biomedicine.

Course design

Teaching is conducted by means of lectures, seminars, group exercises and laboratory sessions. Tasks are carried out individually or in groups and are presented in oral and written form. The tasks consist, for example, of virological case assignments and/or studies of research publications on virology. Compulsory components in the course are seminars, group exercises and laboratory sessions.

Assessment

Examination is based on two assessed components:

Written exam, 4.5 credits: The written exam mainly assesses learning outcomes concerning knowledge and understanding.

Course portfolio, 3 credits: The course portfolio assesses all learning outcomes. A grade of Pass on the course portfolio requires a grade of Pass on the written assignments and oral presentation as well as active participation in compulsory components.

If special circumstances apply, other forms of examination may be applied. .

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.

Entry requirements

120 credits in biomedicine, molecular biology or medicine.

Subcourses in VMFN36, Virology

Applies from H21

- 2101 Written exam, 4,5 hp
Grading scale: Fail, Pass
- 2102 Course portfolio, 3,0 hp
Grading scale: Fail, Pass